

**Introduction to AIX 6L System Administration**  
Course Summary

**Length:** 5 days

**Recommendation Statement:** Basic computer skills

**Course Description:**

This course teaches introductory topics in UNIX and AIX 6L Administration. We begin by teaching the student the basic AIX commands and utilities that are a prerequisite to learning system administration skills. After teaching the student how to use basic AIX commands, the student is taught how to administer an AIX server. The operating system will be AIX 6L. The course is taught on an IBM AIX system.

**Topics Covered in this Course:**

- AIX Fundamentals
- AIX System Administration Tools
- Operating System Installation
- System Startup and Shutdown
- System Devices
- Printer and Queues
- Volume Manager
- Managing File Systems
- Physical Volumes
- Paging Space
- Backup and Restore
- System and Network Security
- Managing and Scheduling Processes
- Network Overview
- Network Commands

**Upon completion of this course, you should be able to:**

- Use fundamental AIX commands and utilities
- Install the AIX operating system
- Use AIX administration tools
- Configure and manage peripheral devices and device files
- Configure the AIX kernel drivers, subsystems, and tunable parameters
- Backup and restore files and directories, and create a bootable recovery tape
- Shutdown, boot, reboot AIX
- Configure Volume Manager and how to setup and manage file systems
- Configure networking
- Secure an AIX system

# Introduction to AIX 6L System Administration

## Detailed Course Outline

### Introduction to AIX Commands and Utilities

- I. AIX Fundamentals
  - a. Unix Architecture
    - i. Files
    - ii. Directories
    - iii. Links
  - b. Unix Shells
    - i. korn, csh, ssh
    - ii. shell environment variables
    - iii. shell initialization files
  - c. Unix Files
    - i. Permissions
    - ii. Shell Variables
    - iii. vi Editor
  - d. Unix Utilities
    - i. cp, mv, rm, mkdir, tar
    - ii. find
    - iii. awk and sed
    - iv. grep
    - v. ps -ef
    - vi. du
  - e. Network Utilities
    - i. telnet/ssh
    - ii. ftp/sftp
    - iii. rcp/scp

## Introduction to AIX 6L System Administration

- II. Sys Admin Tools
  - i. SMIT
  - ii. diag
- III. Operating System Installation
  - i. O/S - NIM and the Gold Image
  - ii. O/S - installing fixes (use of installp)
- IV. System Start-up and Shutdown
  - a. Booting
    - i. Booting the system
    - ii. Service
    - iii. Regular
  - b. Start-up sequence of events
    - i. AIX boot process
    - ii. /etc/inittab
    - iii. System Resource Controller (src)
      - 1. lssrc
      - 2. startsrc
      - 3. stopsrc
  - c. Shutdown
    - i. Stopping the system
    - ii. AIX Shutdown command and flags
- V. Devices
  - a. SCSI devices
    - i. DLT
    - ii. TTY devices
    - iii. PCI devices
- VI. Printers and Queues
  - a. Data flow of a print job
  - b. Configuring AIX printers
  - c. Printer definitions
  - d. Queue definitions
  - e. Managing printers
  - f. lpstat
  - g. Enable and Disable commands
  - h. Qcan with flags
- VII. The Logical Volume Manager (LVM)
  - a. Introducing LVM
  - b. Configuring volume groups
  - c. Configuring logical volumes
  - d. Volume maintenance
  - e. LVM commands
    - i. lsvg
    - ii. mklvcopy
    - iii. rmlvcopy
    - iv. syncvg
  - f. Mirroring
  - g. SMIT LVM menu

- VIII. File Systems
  - a. Structure of a Journal File System (jfs)
  - b. Journalled logs
  - c. File system commands
    - i. lsfs
    - ii. Other commands
  - d. Adding a file system
  - e. Expanding a file system
  - f. Removing a file system
  - g. mount and umount commands
- IX. Physical Volumes
  - a. Hdisk overview
  - b. Physical volume commands
    - i. lspv with flags
    - ii. Other PV utilities
- X. Paging Space
  - a. Paging Space defined
  - b. Why do we need paging space
  - c. Adding paging space
  - d. Activating paging space
- XI. Backup and Restore
  - a. sysback utility
  - b. What to backup.
    - i. Bootable image
    - ii. File and Directory backup.
- XII. Security
  - a. Controlling root access
  - b. Securing network access
  - c. Securing file access
  - d. Trusted access
  - e. Passwords
  - f. Changing passwords
  - g. User administration
    - i. Adding users
    - ii. Deleting users
- XIII. Scheduling
  - a. Cron overview
  - b. Adding to crontab
  - c. atjobs
  - d. System processes
    - i. Starting processes
    - ii. Stopping processes
      - 1. kill command
- XIV. Network Overview
  - a. Ethernet adapter overview
  - b. named
  - c. DNS (bind8) Resolution
    - i. What is it?
    - ii. How does it work?

- iii. Components involved
  - 1. default router
  - 2. default gateway
- d. Network commands
  - i. netstat with flags
  - ii. ifconfig commands